In the Claims:

Please cancel claims 1-70 and please add new claims 73-103. Following is a complete listing of the claims pending in the application, as amended:

1-70. (Cancelled)

71. (Original) A method for calibrating an apparatus for dispensing liquid photoresist on a surface of a microelectronic substrate, comprising:

selecting a field corresponding to at least a portion of a surface of the microelectronic substrate;

selecting a target fraction of the field;

selecting a target time associated with the target fraction;

selecting a target error; and

until an error between the target time and an elapsed time is less than or equal to the target error:

directing a valve to open to initiate a flow of liquid photoresist along a fluid path toward a surface of a microelectronic substrate while the microelectronic substrate is supported on the apparatus and while generating a video image of the field;

with reference to the video image, determining an elapsed time between directing the valve to open and a point at which the target fraction of the field is covered with photoresist;

determining an error value between the elapsed time and the target time; and

adjusting a speed with which the valve opens when the error value exceeds a target error value.

72. (Original) The method of claim 71 wherein determining an elapsed time, determining an error value, and adjusting a speed are performed automatically by a computer.

73. (New) A method for calibrating an apparatus for dispensing a flowable substance on a surface of a microelectronic substrate, comprising:

selecting a field corresponding to at least a portion of a surface of the microelectronic substrate;

selecting a target fraction of the field;

selecting a target time associated with the target fraction;

selecting a target error; and

until an error between the target time and an elapsed time is less than or equal to the target error:

directing a flow of a flowable substance along a fluid path toward a surface of a microelectronic substrate while the microelectronic substrate is supported on the apparatus;

receiving an image of the field;

determining an elapsed time between a first point in time and a second point in time, the second point in time corresponding to a point at which the target fraction of the field is at least approximately covered with the flowable substance;

determining an error value between the elapsed time and the target time; and

adjusting a characteristic of a manner in which the flowable substance is when the error value exceeds a target error value.

74. (New) The method of claim 73 wherein determining an elapsed time, determining an error value, and adjusting a characteristic are performed automatically by a computer.

75. (New) The method of claim 73, further comprising selecting the flowable substance to include a photoresist material, and wherein determining an error value and adjusting a characteristic are performed by a digital computer, further wherein a

valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, further wherein adjusting a characteristic includes adjusting a rate at which the valve changes from the closed state to the open state.

76. (New) The method of claim 73, further comprising selecting the flowable substance to include a photoresist material, and wherein receiving an image includes receiving a video image, further wherein determining an error value and adjusting a characteristic are performed by a digital computer, and wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, still further wherein adjusting a characteristic includes adjusting a rate at which the valve changes from the closed state to the open state.

77. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein initiating the flow of the flowable substance includes transmitting a signal from a digital computer to the valve to change the valve from the closed state to the open state.

78. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein initiating the flow of flowable substance includes transmitting a signal to the valve to change from the closed state to the open state.

79. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and

wherein the method further comprises selecting the first point in time to correspond to a time at which a signal is transmitted to the valve, the signal causing the valve to change from the closed state to the open state.

80. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein initiating the flow includes transmitting an electrical signal to a solenoid to move the solenoid, with the movement of the solenoid changing a flow of air operatively coupled to a portion of a valve that changes from a closed position to an open position.

81. (New) The method of claim 73 wherein initiating the flow toward the microelectronic substrate includes initiating the flow along a fluid path that leads toward the microelectronic substrate.

82. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein adjusting a characteristic includes manually adjusting a rate at which the valve changes to the open state.

83. (New) The method of claim 73 wherein a digitally controlled valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein adjusting a characteristic includes automatically adjusting a rate at which the valve changes to the open state.

84. (New) The method of claim 73 wherein adjusting a characteristic includes adjusting a characteristic when the error value exceeds a target error value of approximately 0.4 second.

85. (New) The method of claim 73 wherein adjusting a characteristic includes adjusting a characteristic when the error value exceeds a target error value of about 0.01 second.

86. (New) The method of claim 73 wherein the microelectronic substrate is a first microelectronic substrate and adjusting a characteristic is performed after dispensing the flowable substance on the first microelectronic substrate and before dispensing the flowable substance on a second microelectronic substrate.

87. (New) The method of claim 73 wherein adjusting a characteristic is performed while dispensing the flowable substance on the microelectronic substrate.

88. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein adjusting a characteristic includes adjusting a rate at which the valve moves from the closed state to the open state.

89. (New) The method of claim 73 wherein a fluid path between a source of the flowable substance and the microelectronic substrate includes a valve configured to selectively reverse movement of the flowable substance toward the microelectronic substrate, and wherein adjusting a characteristic includes adjusting a rate at which the valve reverses the movement of the flowable substance.

90. (New) The method of claim 73 wherein adjusting a characteristic includes adjusting a pressure at which the flowable substance is directed along a fluid path toward the microelectronic substrate.

91. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the

microelectronic substrate, the valve having an open state and a closed state, and wherein adjusting a characteristic includes adjusting a flow area of the valve in the open state.

92. (New) The method of claim 73 wherein a valve is positioned along a flow path of the flowable substance between a source of the flowable substance and the microelectronic substrate, the valve having an open state and a closed state, and wherein a pump is positioned in fluid communication with the flow path, still further wherein adjusting a characteristic includes adjusting a length of time between activating the pump and opening the valve by increasing the length of time when the elapsed time is greater than the target time and decreasing the length of time when the elapsed time is less than the target time.

93. (New) The method of claim 73 wherein determining an elapsed time includes determining an elapsed time between the first time and a time when about 20% of the field is covered with the flowable substance.

94. (New) The method of claim 73 wherein the microelectronic substrate is one of a plurality of microelectronic substrates, and wherein the method further includes disposing the flowable substance on the plurality of microelectronic substrates to an average thickness that varies by less than about ten angstroms from one substrate to another.

95. (New) The method of claim 73 wherein dispensing includes dispensing the flowable substance on the microelectronic substrate to a thickness that varies by less than about 15 angstroms over the surface of the microelectronic substrate.

96. (New) The method of claim 73 wherein initiating, dispensing, generating, determining, and adjusting are performed with a first apparatus on a first microelectronic substrate, and wherein the method further includes performing these

processes with a plurality of apparatuses on a corresponding plurality of microelectronic substrates to form a corresponding plurality of photoresist layers having an average thickness that varies by less than about 15 angstroms for layers formed on one apparatus to layers formed on the next apparatus.

97. (New) The method of claim 73, further comprising selecting the flowable substance to include a photoresist material.

98. (New) The method of claim 73 wherein the portion of the flowable substance is a first portion, and wherein the method further comprises disposing a second portion of the flowable substance on the microelectronic substrate to at least approximately cover the surface of the microelectronic substrate.

99. (New) The method of claim 73, further comprising selecting the field to cover about four square centimeters of a surface area of one surface of the microelectronic substrate.

100. (New) The method of claim 73 wherein receiving an image includes receiving a video image, and wherein the method further comprises generating the video image.

101. (New) The method of claim 73 wherein receiving an image includes receiving a machine readable image, and wherein the method further comprises generating the machine-readable image.

102. (New) The method of claim 73 wherein receiving an image includes a user receiving the image.

103. (New) The method of claim 73 wherein determining an elapsed time and determining an error value are performed by a digital computer.